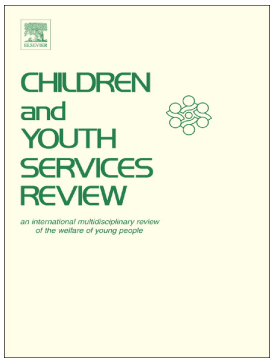

Physical activity engagement among young people living in the care system: A narrative review of the literature

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Physical activity engagement among young people living in the care system: A narrative review of the literature

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Abstract

Young people living in care are amongst the most vulnerable groups in the community, have often experienced trauma, and exhibit a wide range of adverse physical and mental health outcomes. Physical activity (PA) is a health behaviour associated with numerous physical, psychological and social health benefits, yet research indicates that a majority of young people in care are not meeting the minimum recommended levels of PA. To date, there is a paucity of research that has specifically examined factors associated with PA engagement in the care population. A narrative review, therefore, was conducted to summarise the literature examining the barriers and facilitators of PA engagement among young people living in care. Findings of the review suggest that there are multiple factors that may impact young people in care from engaging in PA, including physical, psychological, family, interpersonal, and societal/environmental level factors. Given the unequivocal benefits of increased physical

activity, empirical research is required to more comprehensively examine these factors in the care environment and should be couched within a trauma-informed approach.

Keywords:

physical activity, out-of-home care, children, adolescents, review, barriers, facilitators

1. Australian young people who have been removed from their family home and placed in care are described as living in 'out-of-home care' (OoHC). Internationally, this population are referred to as 'looked-after children and young people', children in 'public care', 'children in care', or young people who are 'care-experienced'. In Australia, the most common placement types include foster care (i.e., care provided in the home of a non-related carer), kinship care (i.e., care provided in the home of a carer who is either a relative or is known to the young person), and residential care (i.e., placement in a residential building where care is provided by paid staff), (Australian Institute of Health & Welfare, 2018). This is similar in both the United States and the United Kingdom (Berger, Bruch, Johnson, James, & Rubin, 2009; Department of Education, 2018; Szilagyi, Rosen, Rubin, & Zlotnik, 2015). A young person's removal from their family home—and into the care system—is most often due to an increased risk of neglect or abuse and/or unsafe and unstable family environments, including exposure to family violence, substance use, mental illness (US Department of Health & Human Services, 2017; Victorian Auditor General, 2014), and physical, emotional and/or sexual abuse (e.g., Collin-Vézina, Coleman, Milne, Sell, & Daigneault, 2011; Pears, Kim, & Fisher, 2008; US Department of Health and Human Services, 2017).

Young people living in care are a diverse group in terms of age, gender, cultural background, physical ability, care type, and the period of time spent in care (Australian

Institute of Family Studies, 2018; Berger et al., 2009; Department of Education, 2018; Szilagyi et al., 2015; US Department of Health and Human Services, 2007) and are amongst the most vulnerable and disadvantaged groups in the community (Australian Institute of Health & Welfare, 2018; Ainsworth & Hansen, 2005; Barber & Delfabbro, 2003). Young people in care experience a wide range of adverse physical and mental health outcomes that include complex psychological, emotional, and behavioural difficulties (Ford, Vostanis, Meltzer, & Goodman, 2007; Nathanson & Tzioumi, 2007; Osborn & Bromfield, 2007; Pears et al., 2008). Whether experienced in one's family environment or during periods of placement in care, neglect and abuse (i.e., physical, emotional, or sexual abuse) are often traumatic events. Alarmingly, recent Swiss research found that approximately 80% of adolescents in residential care had experienced some form of interpersonal trauma (i.e., trauma involving emotional abuse, physical neglect and/or sexual abuse; Fischer, Dölitzsch, Schmeck, Fegert, & Schmid, 2016).

While the removal of a young person from an unsafe family environment is a necessary step to help ensure they are protected from immediate danger, young people in care, particularly residential care, may also be exposed to peers with high-risk behaviours (i.e., behaviours that place the young person at significant risk of further emotional or physical harm, such as criminal activity, sexual behaviours and exploitation, substance use, self-harm and suicidal ideation, and absconding, Department of Child Safety, Youth & Women, 2008). This atmosphere can contribute to young people in care becoming disconnected from important social infrastructure (e.g., their culture, school and other community supports, such as sport and recreation programs). Thus, young people in care may not only experience difficulties prior to entering a period of care - but also during and following placement in care (Gilligan, 2008). Consequently, this disconnection (and its compounding influence) can delay a young person's recovery, putting them at greater risk of

further trauma and associated physical, social, cognitive, behavioural, and emotional consequences that undermine their health and well-being (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Collin-Vézina et al., 2011; D'Andrea et al., 2012; Fratto et al., 2016; Gramkowski et al., 2009; Jee et al., 2011; Simkiss, 2011; Perry, 2006). Furthermore, such developmental disruptions and aversive experiences have also been shown to impact on a young person's transition into adulthood (Fratto, 2016).

Physical activity (PA) is an important health behaviour that is associated with a multitude of physical and psychological health benefits (Ahn & Fedewa, 2011; Kirkcaldy et al., 2002; Motta, McWilliams, Schwartz, & Cavera, 2012; Pate et al., 2013) and - due to the social interaction that often occurs as part of PA participation - is associated with benefits for young people's social development (Eime et al., 2013). While there is limited evidence regarding the PA levels of young people in care, the evidence that is available demonstrates that this population do not meet PA recommendations (i.e., 60 minutes of moderate to vigorous activity on a daily basis, Dowda et al., 2009; Vincent & Jopling, 2018; World Health Organisation, 2010). Indeed, one study in the United States found that young people in foster care or residential care were less likely to achieve PA recommendations when compared to their peers in the general population, who lived at home with their parents (i.e., single parent, two parents, and step-parents) (Ornelas, Perreira, & Ayala, 2007).

Understanding the factors that contribute to PA engagement among young people in care—in conjunction with the physical, psychological, and social benefits PA has for this population specifically—can inform the development of interventions designed to not only improve PA engagement, but also to improve the physical, psychological and social well-being of these young people during and following periods of care. Furthermore, a delineation of the impelling and inhibiting factors associated with PA in care will provide a road map for

agencies, residential workers and carers who are determined to improve the overall health and well-being of the young people in their care.

To date, few studies have examined what factors are associated with PA engagement by young people living in the care. Quarmby and Pickering (2016) reviewed the barriers and facilitators of PA participation of young people in care , however, only seven studies published between 1998 and 2013 were reviewed, with a number of studies examining only leisure or free-time activities more broadly (rather than specifically examining PA). Furthermore, this review did not examine the benefits or positive outcomes associated with PA participation among young people living in care. Therefore, the overarching aim of this narrative review was to summarise the literature examining factors associated with PA engagement among young people in care. Specifically, the objectives of this review are twofold: (1) to summarise the outcomes for young people in care who engage in PA; and (2) to identify the facilitators and barriers to PA engagement among young people in care. For the purposes of this narrative review, PA is defined as any activity that involves movement of the body and results in energy expenditure (World Health Organisation, 2018), and can include outdoor play, active travel, unstructured free time, recreational and leisure activities, and organised or structured activities (i.e., sporting teams, dance classes, Department for Children, Schools & Families, 2009).

The search strategy involved a comprehensive search of peer-reviewed literature published up until May 2019 was conducted between September 2017 and May 2019 using the following electronic databases: PubMed, Google Scholar, PsycInfo, and CINAHL Plus. Search terms referring to the context of care (e.g., ‘looked after children’, ‘out-of-home care’, ‘foster care’, ‘residential care’, ‘kinship care’), young people (e.g., ‘young people’, ‘youth’, ‘child(ren)’, ‘adolescents’, ‘teenager’), physical activity (e.g., ‘physical activity’, ‘sport(s)’, ‘exercise’, ‘recreation’) were combined using Boolean operators (‘AND’, ‘OR’). Search

terms that referred to factors associated with PA participation were also included (e.g., 'psychological', 'mental health', 'social', 'physical', 'environment'). In addition to searching electronic databases, articles were sourced by reviewing the reference list of peer-reviewed articles and by searching grey literature. In light of the dearth of research that has focused on PA in the care context, this review also draws on studies that have examined young people and adults who have reported experiencing childhood maltreatment or abuse but may not have been placed in care. Given the high prevalence of childhood maltreatment among young people in care, a comparison between these groups is valid. In addition, this review—where possible—compares and contrasts findings between the general population and young people in care and/or have experienced past trauma.

2. What are the potential benefits of young people in care engaging in physical activity?

Promoting PA engagement at both the individual and organisational level could be beneficial for young people living in care. According to Gilligan (1999), leisure activities (such as participating in sports) provide the opportunity to improve four areas of functioning for young people in care. These include: (1) maintenance (i.e., developmental needs in terms of physical, psychological and emotional care); (2) protection (i.e., protecting and promoting the rights and interests of the young person); (3) compensation (i.e., to assist young people with the difficulties that have faced that led to their entry into the care system); and (4) preparation (i.e., building emotional resilience, knowledge and skills to be able to make their way in the world when they leave care). In addition, PA has also been shown to improve physical, social and psychological health; outcomes that young people living in care are known to have deficits in (Ford et al., 2007; Osborn & Bromfield, 2007). These potential benefits are summarised in the following sections.

2.1 Physical health

The physical health benefits of PA are widely recognised (e.g., Janssen & LeBlanc, 2010; Penedo & Dahn, 2005; Ross & Thomas, 2010). For children and adolescents in the general population, PA is associated with improvements in cholesterol levels, blood pressure, insulin levels, bone mineral density, and reductions in overweight and obesity (Janssen & LeBlanc, 2010). For example, cross-sectional studies in the United states have found that sports participation among adolescents was associated with less eating and dietary-related problems and less health-related problems more generally (Steiner et al., 2000), and vigorous PA has been linked with healthy dietary intake of carbohydrates and fats and better sleep quality in adolescents (Delisle et al., 2010). There is also evidence to suggest that participating in a sport is associated with a lower likelihood of cigarette smoking and substance use, according to a large cross-sectional study with high school students (Harrison et al., 2003), and high levels of vigorous PA (e.g., frequently engaging in activities such as jogging, football, skateboarding, and fast bicycling) in adolescents has been associated with lower levels of, and less frequent, substance use (Delisle et al., 2010).

Importantly, while this body of research has been conducted with young people from the general population, there is no reason to suspect that such findings are not also relevant to young people in care. Indeed, PA could benefit the physical health of young people in care, particularly in light of research that suggests young people who have experienced maltreatment are at a greater risk of poor health outcomes (e.g., Danese & Tan, 2014; D'Argenio et al., 2009; Hemmingsson et al., 2014; Whitaker et al., 2007), including evidence of higher rates of overweight and obesity among young people in care (Cox et al., 2014; Hadfield et al., 2008; Skouteris et al., 2011).

2.2 Psychological health

In addition to physical health benefits, being physically active is also associated with improved psychological health and well-being (Eime et al., 2013; Fox, 1999). As shown by a

systematic review conducted by Eime and colleagues (2013), a large body of research has demonstrated that for young people in the general population, PA has been associated with improved self-esteem, fewer depressive symptoms, and greater self-confidence and perceived competence. Moreover, there is research to support the relationship of physical activity with both cognitive performance and academic achievement in adolescents (Esteban-Cornejo, Tejero-Gonzalez, Sallis, & Veiga, 2015; Ruiz, Ortega, Castillo, Martín-Matillas, Kwak, Vicente-Rodríguez et al., 2010). Young people in care are more likely to have a special education need compared to other young people (Department for Education, 2019) and have reported poor educational outcomes, including literacy and numeracy skills (Knight & Rossi, 2018). PA participation could benefit the cognitive development of young people in care and their engagement in schooling.

Given the adversity and trauma that the care population have experienced—and may continue to experience—it has been argued that engaging in PA (particularly sports participation) could provide opportunities for young people to develop their identity, to improve their self-esteem and self-respect, build their confidence, and develop their leadership abilities (Gilligan, 1999; Gilligan, 2000; Sport England, 2004). In a recent qualitative study in the United Kingdom, young people in residential care described how leisure activities, including sports participation, provided the opportunity to build their confidence (Quarmby et al., 2019). In addition, participation in leisure activities such as PA, are also seen as a tool for building resilience (Safvenbom & Samdahl, 2000). While young people in care may already be demonstrating resilience in the face of adversity during and following periods of care (Bengtsson, Sjöblom, & Öberg, 2018; Lukšík 2018), engaging in PA could help young people in care to improve their ability to cope and to thrive. Moreover, PA has the potential to provide young people in care with a sense of adventure or challenge, and a sense of purpose (Sport England, 2004). For young people, a sense of purpose is a

protective factor that is associated with greater emotional well-being, life satisfaction, and a sense of hope (Burrow & Hill, 2011).

2.3 Social health

Adolescence is a significant period of social development (Safvenbom & Samdahl, 1998), with the expansion of social networks to include different types of relationships with peers and adults. These relationships are often intimate and can have a profound influence on a young person's development. Given that young people in care are likely to experience disruptions to their social networks (e.g., an unsupportive or unstable family environment leading to the interruption of relationships with siblings and friends, Perry, 2006; Safvenbom & Samdahl, 1998; Sen & Broadhurst, 2011; Quarmby, Sandford & Pickering, 2019), and may experience attachment difficulties associated with interpersonal trauma (Orlans & Levy, 2014; Schröder, Perez, & Schmid, 2012), PA (including sports participation) could serve as an important facilitator in developing and fostering positive social relationships. Qualitative research examining young people in residential care in the United Kingdom shows that PA engagement can facilitate the building of social networks and provides the opportunity to develop connections (Quarmby, 2014; Quarmby et al., 2019). Indeed, it has been argued that sporting activities could help to facilitate the social re-integration of young people in care back into the general community (Murray, 2013; Smith & Carlson, 1997; Walseth, 2008). That is, sporting activities may provide a means for young people in care to connect with young people and adults outside of the care environment. For young people in residential care this is especially relevant, where many young people have reported a sense of being separated or isolated from the wider community (Murray, 2013). According to Putnam (2000), being a member of an organisation (such as sporting clubs) provides an avenue for not only bonding with others who are similar but also for connecting with those who are different. Thus, sporting activities could enable young people in care to take on various social roles, to build

social skills, and to experience group processes (such as cooperation and cohesion, Svoboda, 1994).

According to a cross-sectional study of Swedish adolescents, activities that have the most positive effects for young people in the general population are voluntary, occur regularly, are structured, rule-guided, and incorporate skill-building (Mahoney & Stattin, 2000). In terms of young people living in care, structured activities with adult leadership (such as organised physical activities and sporting teams) may be of considerable benefit by providing opportunities to develop a young person's social skills, to broaden their social network (e.g., to build positive relationships with peers and non-familial adults), and to enable them to contribute to the wider community (Bailey, 2005; Eccles et al., 2003; Gilligan, 1999; Gilligan, 2008; Hollingworth, 2012). For example, Cox et al. (2018) reported that PA in residential care in Australia enhanced young people's connection to the wider community by linking young people with those living outside of residential care homes, and by linking young people with external organisations. As a result, this connection to community was reported to increase the young people's confidence and positive social interactions (Cox et al., 2018).

Furthermore, PA can provide young people in care with a sense of stability and consistency in their lives (Hollingworth, 2012), especially when the care environment—particularly residential care—can be characterised by instability (e.g., the transition from placement to placement) and the inconsistency of those providing care (e.g., high carer turnover and/or rotation in residential care, Farineau & McWey, 2011). Continuity of activities such as sports and PA programs may act as a buffer from the disruption often experienced in the care environment, allowing for the continuity and flourishing of relationships formed through participation in activities external to the care environment (Fong et al., 2006).

3. What factors influence engagement in physical activity?

Just as there are multiple benefits to engaging in PA, there are multiple factors that may facilitate or act as potential barriers to PA participation and, as was the case above, these factors share considerable overlap across populations of young people, including those in the general population and those who have experienced maltreatment or abuse and/or that have experience living in care. The following sections provide a review of the literature in terms of the physical, psychological, family, interpersonal, societal/environmental factors that may influence engagement of the care population in PA. As previously mentioned, the review includes a comparison or contrast of the care population to the general population of young people and those that have experienced childhood maltreatment/trauma.

3.1 Physical factors

Physical factors, particularly motor development, can impact a young person's ability and their willingness or motivation to engage in PA. Specifically, deficits in motor development may impact the young person's ability to engage in activities that require the use of gross motor skills (such as coordination, balance or, for example, being be able to kick, throw or catch a ball). There is evidence to support the relationship between childhood maltreatment and deficits in motor development (e.g., Nolin & Etheir, 2007; Wade, Bowden, & Sites, 2018). A study of pre-school aged children in foster care in the United States reported that more than a third of young people experienced deficits in their motor development (Silver et al., 1999), and such deficits have been found to be more prominent among young people who have experienced abuse, neglect (including medical neglect), or parental substance use (Hanson, Jaward, Ryan, & Silver, 2011).

Research shows that maltreatment and/or abuse can affect both fine and gross motor skills, with a cross-sectional study of young people in Brazil demonstrating that young people

who had experienced maltreatment and were also placed in foster care reported difficulties with balance, manual dexterity and aiming and catching skills, and their performance on balancing tasks was poorer than that of young people who had not experienced maltreatment and were not placed in care (Sartori et al., 2017). Experiencing difficulties with motor skills may not only affect the young person's ability to engage in certain physical activities - young people may perceive themselves to be physically incompetent in comparison to their peers, and could become socially isolated. Difficulties with motor development have been associated with psychological and social difficulties among young people in the general population (e.g., Piek, Bradbury, Elsley, & Tate, 2008).

3.2 Psychological factors

For young people in the general population, there are a number of psychological barriers to PA engagement. For example, longitudinal research conducted with male and female adolescents has shown that poor self-esteem and symptoms of depression (Ornelas et al., 2007), and a lack of self-efficacy (one's perception of their ability to engage in a specific activity, Dowda et al., 2007) are associated with lower levels of PA up to five years down the track.

Similarly, for young people living in care, research shows that self-efficacy has a significant impact on their PA engagement (Quarmby & Pickering, 2016). A lack of self-efficacy in relation to PA may stem from young people having limited exposure to different types of PA and learned movement skills (e.g., running, jumping and throwing) prior to being placed in care. Additionally, attenuated levels of self-efficacy may also be associated with a young person's current self-esteem and psychological well-being more generally. Certainly, poor psychological well-being has been associated with lower levels of PA among young people living in care. For example, in a recent study that cross-sectionally examined participation in structured activities (e.g., physical activities that occur within organisations,

clubs and teams) among male and female adolescents living in either foster care, kinship care, and residential care, feelings of loneliness, higher levels of depression, and substance abuse were associated with lower levels of participation (Conn et al., 2014).

Also related to psychological factors and levels of PA engagement in young people living in care is the experience of childhood maltreatment. Specifically, childhood physical and sexual abuse has been associated with psychological disturbances, in particular - the concerns around one's body image, both in childhood and later in adulthood (Brooke & Mussap, 2013; Finkelhor & Browne, 1985; Jeffrey & Jeffrey, 1991; Kearney-Cooke & Ackard, 2000; Treuer, Koperdák, Rózsa, & Füredi, 2005; Wenninger & Heiman, 1998). For example, a cross-sectional study demonstrated that childhood sexual abuse was associated with a tendency to place less importance on physical appearance and fitness, and levels of physical activity in adulthood, compared to those who had not experienced childhood abuse (Hunter, 1991). Moreover, it has been argued that individuals who have a history of childhood sexual abuse may blame their body for the abuse, and then seek to change their body shape (by increasing their body weight, for example) to protect themselves from subsequent abuse (Gustafson & Sarwer, 2004). Poor body image, and the desire to change or maintain a particular body size/shape, may impact on a young person's motivation and willingness to engage in PA, the practices associated with PA, and the environment in which they are carried out. For example, young people may feel uncomfortable or anxious in using change room facilities where their bodies may be exposed (Harrison et al., 2003; O'Donovan et al., 2015). A recent qualitative study highlighted that the need to use change rooms when participating in school-based physical education could be a challenging environment for young people in care, where self-consciousness about exposing body parts, engaging in body comparison, and judgement or bullying from others could occur (Quarmby, Sandford, & Elliot, 2018). In addition, young people with body image concerns may be sensitive to the

presence of mirrors in gyms and dance studios (that increase the focus on body appearance) or the weighing practices in the sporting and fitness environment, and the physical contact between participants that some activities require.

3.3 Family factors

Family factors have also been identified as an important influence of PA engagement amongst young people. Positive family and peer relationships that provide intimacy, companionship and support are important for child and adolescent development (Canetti & Bachar, 1997; Munsch & Blyth, 1993). Parents play a significant role in championing their children's competencies and the development of health behaviours, including PA (Biddle et al., 2011; Ornelas et al., 2007). One longitudinal study that sampled adolescent girls from the general population demonstrated that poor family support, as perceived by the young person, was associated with lower levels of PA over time (Dowda et al., 2007). In addition, poor family connectedness (e.g., the young person's perception that their parents do not care about them) has been linked with lower rates of sports participation in a large sample of high school students in the United States (Harrison et al., 2003). Furthermore, research also suggests that family cohesion (e.g., the young person's perception of how much their family understands them and pays attention to them), parent-child communication (e.g., talking about a personal problem), and parental engagement in PA predicts the likelihood of a young person meeting the PA recommendations in adolescence (Ornelas et al., 2007; Sallis et al., 2000).

Other types of parental support that are considered to be important facilitators of a young person's engagement in PA in the general population (Beets et al., 2010), according to primarily cross-sectional studies of adolescents, include: instrumental support (e.g., providing finances and transport, Beets, Vogel, Forlaw, Pitetti, & Cardinal, 2006; Wright, Wilson, Griffin, & Evans, 2008); conditional support (e.g., participating in the activity with the young person, Heitzler, Martin, Duke, & Huhman, 2006; Ornelas, Perreira, & Ayala, 2007); and

motivational support (e.g., verbal encouragement of the young person's engagement in the activity, Cardon, Philippaerts, Lefevre, Matton, Wijndaele, Balduck et al., 2005). In addition to the various aspects of parental support, cross-sectional research with young people aged nine to 13 years suggests that parental beliefs about the benefits of PA, and the young person's perceptions of parental support are also associated with the young person's PA participation (Heitzler et al., 2006). In preschool aged or young children, systematic reviews of the literature have demonstrated that family factors such as parental role modelling, participating in PA with young children, providing support and encouragement, instilling the value of PA in children, and the opportunity for children to play with other children (e.g., siblings) facilitates PA engagement (Hesketh, Lakshman, & van Sluijs, 2017; Mitchell, Skouteris, McCabe, Ricciardelli, Milgrom, Baur et al., 2012). Barriers to preschool age children being physically active that were identified in Hesketh et al. (2012), included parents' lack of time, managing work and multiple family commitments, and parents' energy levels.

Given the maltreatment, neglect and/or unsafe and unstable environments that young people living in care have experienced, and their subsequent removal from their family home, young people are likely to have little-to-no exposure to parental and family support (both in a general sense and that which would facilitate participation in PA). Instead, carers in the care system serve as important agents of change, in which the provision of positive support may supplement the lack of parental support and in turn encourage PA participation (Dominick et al., 2012). For example, findings from one study of adolescents living in residential care in the United States demonstrated that having a specific person for promoting PA in residential care homes (i.e., a 'sport and recreation director') was associated with increased levels of PA participation among young people (Gay et al., 2011). In addition, in a more recent Australian study evaluating a healthy lifestyle intervention for young people in residential care (Cox et

al., 2018), residential workers reported that young people were more likely to engage in PA when workers modelled PA. Moreover, this evaluation also found that young people were more likely to model the PA behaviours of residential workers when there was a strong relationship between the young person and the worker (Cox et al., 2018), highlighting the importance of strong, trusting relationships between young people in care and their care providers.

3.4 Interpersonal factors

While strong relationships are an important aspect of care, childhood trauma has been associated with difficulties developing positive attachments and limited interpersonal skills (Fratto, 2016). Such difficulties can negatively affect an individual's social and interpersonal functioning (Anda et al., 2004), making the development and cultivation of close relationships in care all the more challenging. Moreover, the sense of stigmatisation that may be experienced by individuals who have experienced trauma can lead to social isolation (Harrison et al., 2003), further decreasing the likelihood that young people living in care will develop positive relationships (including those relationships that promote and foster participation in PA). Here, it is argued that stigmatisation leads to a sense of being different, and is based on a self-perception that one will be rejected by others, especially those who have not experienced maltreatment or have not experienced living in care (Finkelor & Browne, 1985; Rodgers, 2017).

For a young person in care, interpersonal difficulties may affect their willingness to engage in physical activities for at least two key reasons. Firstly, young people may find it difficult to develop positive, 'parental-style' and supportive relationships with carers who are trying to support and encourage the young person to engage in PA. Secondly, the vast majority of PA requires interacting with other young people and adults who facilitate and/or support organised or structured activities (e.g., sports coaches). This may present as a

threatening and/or anxiety-provoking situation for a young person with diminished interpersonal skills. Indeed, a recent longitudinal study of adolescents living in care in the United States (including foster care, kinship care, and residential care) demonstrated that social isolation and problems with peers (i.e., interpersonal competency/skills) were associated with a lack of participation in structured activities (e.g., sport and recreation programs held at organisations, clubs and teams, Conn et al., 2014). Furthermore, the same study also reported that poor social skills were associated with poor participation in unstructured activities (e.g., casual physical activities including basketball, swimming and bicycle riding, Conn et al., 2014).

3.5 Societal and environmental factors

In addition to the physical, psychological, family and interpersonal factors that can influence levels of PA for young people in both the general population and those living in care, societal and environmental factors can also play a significant role. For example, environmental factors associated with PA among young people in the general population—that are also particularly relevant to young people in care—include low income or lower socioeconomic status, and a lack of access or proximity to sport and recreation facilities and programs (e.g., Ferreira, Van Der Horst, Wendel-Vos et al., 2007; Hesketh et al., 2017; Janssen, Boyce, Simpson, & Pickett, 2006; Reed et al., 2005). Not surprisingly, a review examining the relationship between PA (including physical education and sport) and social inclusion demonstrated the opportunity to participate in physical activities is an important facilitator of engagement (Bailey, 2005) and is especially relevant for young people living in care, particularly, residential care homes, where there may be limited access to PA programs and facilities due to limited resources (Gay et al., 2011). Quarmby et al. (2019) reported that young people in residential care tended to engage in PA within or in close proximity to their home, such as in the backyard, in the street, and in local parks, suggesting perhaps that these

young people may not have the opportunity to be engaged in organised or more structured sporting and PA programs. A randomised controlled trial examining an intervention to promote PA in residential care homes in the United States demonstrated that young people were likely to be more active when organisations provided the opportunity to be active, when policies and practices were in place that are supportive of PA, and when recreation staff were employed within the residential care home (Dominick et al., 2014). Similarly, recent qualitative research conducted by Quarmby et al. (2018) highlighted that young people living in residential care experienced difficulties engaging in school-based physical education activities due to a lack of exposure to physical activities before entering care, diminished opportunities to develop physical abilities through regular participation, or not having access to the necessary clothing for the activity (e.g., uniforms). These barriers to engaging in PA could also reinforce the stigmatisation that young people in care may experience.

In addition, qualitative research involving young people in care and care-leavers in the United Kingdom suggests that being placed in care and frequent placement moves can also impact on the continuity of recreational activities that involve PA and sports participation (Hollingworth, 2012, Quarmby et al., 2019). Thus, consideration must be given as to whether the proximity of a new placement location allows the young person to continue their current PA commitments. The issue of frequent placement moves for young people in care highlights the constraints of the care system more broadly; which has also been identified as a potential barrier to PA participation (Quarmby & Pickering, 2016). For example, greater opportunities to engage in PA off- and on-site for young people in residential care has been associated with higher levels of PA (Gay et al., 2011). In addition, the characteristics of PA (including whether the activity was provided by a skilled adult) are also associated with increased PA participation (Gay et al., 2011). These findings suggest that the care environment and system (including organisational structure and policies, particularly

in the residential care setting) are important facilitators of PA engagement. Therefore, the existence of government and organisation level policies related to care that facilitate PA participation on-site (i.e., in the home) and find ways to provide transportation and fees for PA offsite (e.g., local sporting clubs, recreational facilities), will help to foster an environment in which more young people living in care will engage with PA more regularly.

4. Conclusions and recommendations

To date, few studies have examined what factors are associated with PA engagement by young people living in care. The primary aim of this narrative review, therefore, was to summarise the literature examining factors associated with PA engagement and how these relate to young people living in care. In particular, the objectives of this review were: 1) to summarise the outcomes for young people in care who engage in PA; and (2) to identify the facilitators and barriers to PA engagement among young people in care. Based on a wide range of literature (sourced from a search of empirical and grey literature), this review has highlighted that there are multiple factors that may facilitate or act as a barrier to young people in care engaging in PA. This includes a number of physical, psychological, familial, interpersonal, societal and environmental factors, all of which have significant importance in the context of the care.

It is clear from this review that factors identified as being associated with PA engagement fall broadly into two categories; those that are situated internally (i.e., physical and psychologicalfactors) to the individual and those that are external (i.e., societal and environmental factors) to the individual. In particular, environmental factors (i.e., the resources available to access PA) are likely to be significant barriers to young people engaging in PA in while in care, due to their positioning within government and organisation level policies. Therefore, targeting organisational-level factors that will provide more opportunities for young people to be physically active, is imperative. These include

employing strategies such as: modifying policies and practices relating to care so that they better facilitate and promote PA engagement; delivering messages that promote PA through residential, foster, and kinship carers modelling positive attitudes and behaviours; and enhancing social support and encouragement of a young person's pursuit of PA both within and external to the home.

This review demonstrates the lack of research that has been conducted on factors associated with PA engagement in the context of care. It is important to consider that this review included findings of studies that examined the general population of young people, and populations of young people and adults who experienced childhood maltreatment or abuse, but who may not have been placed in care. As such, there are limitations in the degree of comparison that can be made. Moreover, some of the conclusions made were drawn from findings that relate to the general population of young people more broadly, rather than specifically to those young people in care. While there is no reason to suggest that these general population findings are not applicable to young people in care, it is acknowledged that young people who have been removed from their family home and placed in care are likely to have faced unique challenges that may impact differently on PA outcomes and be associated with specific barriers and/or facilitators of PA (Quarmby et al., 2019). For example, the trauma associated with childhood maltreatment can impact on all aspects of a young person's life, and individual factors that may inhibit or be a barrier to PA engagement could be a coping strategy or a young person's response to their trauma experience (Harris & Fallot, 2001b). In addition, given that young people in care are a diverse group in terms of age, gender, cultural background, physical ability, and their care experiences (e.g., period of time in care), an exploration of how these individual characteristics influence a young person's PA engagement is also warranted. There remains a strong and pressing need for a comprehensive examination of young people's PA engagement, longitudinal and

contemporaneous assessments of the barriers and facilitators, and the individual, organisational-level and system-level outcomes of young people engaging in PA in the in the care environment. Moreover, while this review focused on care more generally, a more fine-grained approach to the identification of PA engagement factors between care types (e.g., residential care, foster care, and kinship care) is necessary, given the inherent differences across these care settings. This valuable endeavour would help to identify both the consistent and the idiosyncratic factors associated with each form of care.

Young people living in care have often faced significant adversity and psychosocial difficulties that have implications for their development and transition into adulthood. Developing interventions to support the health and well-being of these young people during their period of care is crucial. Given the likelihood that young people in care have experienced trauma associated with maltreatment and/or abuse, using a trauma-informed approach to better understand and improve factors that influence PA engagement in this population is necessary. Trauma-informed interventions aim to promote change in the emotional and social well-being of young people who have experienced maltreatment (Gilligan, 1999). Therefore, PA (particularly sports participation) could be a beneficial way to promote positive change for young people living in care. The benefits of PA, including positive outcomes associated with physical health, psychological well-being, social development, and the opportunity to build positive relationships with peers and adults in the broader community, demonstrate that PA engagement should be a key focus for those supporting young people in the care environment. Encouraging PA could play a vital role in improving physical, psychological and social outcomes for young people in care, and could be a fruitful avenue for identifying and fostering the strengths of young people. Therefore, it is incumbent upon not only policy makers, but researchers, organisations and care providers

to be steadfast and consistent in their efforts of providing young people with opportunities for PA in the care environment.

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Highlights

- Physical activity has numerous benefits for the physical, psychological and social health and well-being of young people
- Young people living in care could benefit from increased levels of physical activity engagement
- There are a number of physical, psychological, family, interpersonal, and social/environmental factors that could facilitate or be a barrier to physical activity participation in the care population
- Understanding the barriers and facilitators to engaging in physical activity can help carers to identify the individual needs of the young person and how they might benefit from physical activity participation.